WHAT IS CLAIMED IS:

1. A brushless dc motor, comprising:

a motor rotor having at least one magnet set;

a motor stator having at least one pole set corresponding to the magnet set

5   of the motor rotor;

a first sensor/drive member having a first pin and a second pin, the first

sensor/drive member is adapted to detect pole phases of the magnet set of the

motor rotor;

a second sensor/drive member having a first pin and a second pin, the

10   second sensor/drive member is adapted to detect pole phases of the magnet set

of the motor rotor;

a first motor coil having a first terminal and a second terminal, and the

first terminal is connected to a power source while the second terminal is

connected to one of the first and second pins of the first sensor/drive member

15   and one of the first and second pins of the second sensor/drive member in

common; and

a second motor coil having a first terminal and a second terminal, and the

first terminal is connected to the power source while the second terminal is

connected to the other of the first and second pins of the first sensor/drive

20   member and the other of the first and second pins of the second sensor/drive

member;

wherein the first sensor/drive member and the second sensor/drive member are commonly detect the pole phases of the magnet set of the motor rotor so that the first motor coil and the second motor coil are alternatively 5 excited to thereby rotate the motor rotor.

2. The brushless dc motor as defined in Claim 1, further comprising a circuit board attached to a bottom portion of the motor rotor; the first sensor/drive member and the second sensor/drive member are mounted to the circuit board.

10 3. The brushless dc motor as defined in Claim 2, wherein the first sensor/drive member and the second sensor/drive member are located at the same pole phases of the pole set of the motor stator.

4. The brushless dc motor as defined in Claim 2, wherein the first sensor/drive member and the second sensor/drive member are located at the 15 different pole phases of the pole set of the motor stator.